REMARKS

Request for Reconsideration

Applicant has carefully considered the matters raised by the Examiner in the outstanding Office Action but remains of the opinion that patentable subject matter is present. Applicant respectfully requests reconsideration of the Examiner's position based on the following remarks.

Claims Status

Claims 1 through 10 are pending in this Application, and no amendments have been made herein.

Rejection

The Examiner has made only one rejection, namely, Claims 1-10 are rejected as being unpatentable over a combination of Noguchi and Owatari. The Examiner uses Noguchi to teach a light curable type aqueous resin composition comprising a polymerizable compound which polymerizes with radical polymerization by water and active ray, and an aqueous photopolymerizable initiator which generates free radicals by active ray. Noguchi is silent with respect to any type of surfactant, thus, the Examiner has turned to Owatari to teach non-ionic surfactants. The

Examiner then goes on to state that it would be obvious to one of ordinary skill in the art at the time of the Invention to modify the invention of Noguchi by adding the non-ionic surfactant of Owatari to provide a stable ink composition.

Applicant's arguments are two fold. First, Applicant submits that the Examiner has not made out a prima facie case of obviousness and, second, the present Invention provides superior results compared to the general teachings of Noguchi and Owatari thereby evidencing the non obviousness of such a combination. Each point will be discussed in turn below.

In order to present a prima facie case of obviousness, the Examiner must point to some motivation or suggestion in the prior art to combine the references. It is improper for the Examiner to merely state that it would be obvious to combine references. As can be appreciated, most inventions are made up of components that are in the prior art, however, the way these components are used or combined provides the patentability of the invention. For this reason, the Examiner must provide some basis as to why the references should be combined. To simply say that one of

skill in the art would combine them is tantamount to hindsight.

In fact, Applicant submits that there is evidence which supports the fact that the references should not be combined because they contradict each other.

First, Noguchi is a recent reference, having a filing date of September 2001. There is no hint or suggestion in Noguchi that his composition has defects. Thus, Applicant fails to see any motivation or teaching in Noguchi that would warrant the addition of a surfactant to Noguchi's composition. This is evidence that teaches there is no need to add a surfactant of any type to Noguchi.

Second, Owatari teaches that, in order to have the proper contact angle of the ink with the paper, one must select kinds and amounts of solvents, surfactants, and penetrating agents, see Column 1, line 67 - Column 2, line 5. Owatari is silent with respect to using a surfactant for purposes of stability. Thus, assuming that Noguchi did indicate stability is a problem, Owatari doesn't provide one with a solution because Owatari is not teaching the use of a surfactant, let alone a non-ionic surfactant for

purposes of stabilizing the ink. Rather, he teaches selecting the solvent and surfactants and penetrating agents in order to regulate the contact angle of the ink to the paper.

This is in direct contrast with the present Invention where it is pointed out that, in order to solve the stability problem in aqueous type active ray curable inks, a non-ionic surfactant is employed.

Third, it will be noted that Owatari specifically teaches using organic solvents in his composition, see Column 2, line 7 as well as Column 3, lines 7+. Thus, Owatari is teaching using his surfacants in an organic solvent type environment. This can be directly contrasted with the present Invention which preferably uses no solvent, see, for example, page 29, line 19. As noted in the Application on page 29, if solvent is left in the cured image, degradation of the property to solvent resistance and volatility, this solvent occurs and it can become a problem.

Fourth, the chemical difference between Noguchi and Owatari lead away from their combination. This is highlighted by the fact that Owatari is not directed to a ray curable ink, has no polymerizable compound therein and does not employ an initiator. Thus, the chemical composition of Owatari is dramatically different from the chemical composition of Noguchi. It is submitted that one of skill in the art would appreciate the fact that these chemical compositions are different and would not look to Owatari because of the differences in the chemical make up of the two different inks.

Furthermore, there is no indication in Owatari that his surfactants, let alone a non-ionic surfactant, would function in the chemical composition of Noguchi. The Examiner should appreciate that ray curable inks have a chemical reaction going on due to the fact the initiator causes radicals and polymerization is actively ongoing in the ink after jetting. There is no teaching or suggestion in Owatari whether or not the surfactant would interact or inhibit this polymerization reaction.

Respectfully, Applicant has pointed to numerous motivations and suggestions in the references why they should not be combined. Thus, Applicant has shown the negative, namely, that one of skill in the art would not be motivated to combine Noguchi with Owatari.

Respectfully, given the fact that the Examiner has not put forward a basis for any motivation or suggestion for combining the references and the fact that the references actually provide a negative for such combination, it is submitted that no prima facie case of obviousness has been made and that the claims are patentable over the references.

Turning to Applicant's second point, it is respectfully submitted that Applicant has demonstrated, through his data in his Application, the non obviousness of using a non-ionic surfactant in an aqueous type ray curable ink composition.

Turning to the data in the Application, pages 42-43 in Tables 1-1 and 1-2, shows ink Compositions 1, 2 and 3 contain no surfactant (Noguchu), cationic and anionic surfactants, respectively. These chemical compositions can

be contrasted against Compositions 4 through 8 which contain non-ionic surfactants.

From Tables 2-1 and 2-2 on pages 47-48, it can be seen that Samples 1-4 use Ink 1 with no surfactant (Noguchi), Samples 5-8 use Ink 2, containing the cationic surfactant, and Samples 9-12 use Ink Composition 3, which contains the anionic surfactant. These Samples can be compared to Samples 13-32 which use the non-ionic surfactant in the ink composition.

From Tables 3-1 and 3-2 on pages 52-53, the difference between an ink composition using the non-ionic surfactant versus the ink composition using no surfactant, a anionic or cationic surfactant is demonstrated. It can be seen from the results reported in Table 3-1 that the non-ionic surfactant provides the ink with superior results to the inks with no surfactant and cationic or anionic surfactant. Specifically looking at the text quality after 100m, it can be seen that the text quality of the ink using no surfactant, anionic or cationic surfactant is not practical to use (Category X). This should be contrasted against the present Invention which shows that, in all cases for Samples 13-32, the text quality after 100m is acceptable.

hereby made and authorization is given to debit Account #02-2275.

Respectfully submitted,

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